DO MICROBIOMES INTERACT WITH THE ZIKA VIRUS?
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All animals including humans, insects and plants are holobionts. Each holobiont comprises the host and a myriad of interacting microbes, altogether defined also as a superorganism. In health, there is a fine tuned equilibrium within the members of the microbiome and between them and the host. This relatively stable equilibrium is maintained by a high level of diversity among microbes, a delicate biogeographic microbial distribution and a sophisticated and intricate molecular crosstalk among the multiple components of the superorganism. Pathobionts are temporarily benign microbes with the potential, under modified ecosystem conditions, to induce pathogenesis to the host. Pathobionts may be either endogenous, living for prolonged periods of time inside or on the host, or exogenous, invading the host during opportunistic situations. In both cases, the end result is the transformation of the beneficiary microbiome into a health perturbing pathobiome. We hypothesize that all diseases of holobionts, acute or chronic, infectious or non-infectious, regional or systemic, are characterized by a perturbation of the microbiome of health into a pathobiome of disease. Examples (from AIDS to Zika) will be presented to consolidate this new paradigm.